

WHAT IS CLAIMED IS:

1. A system for dispersing the load of a network in data communications between a central computer and a plurality of remote nodes that are connected to the central computer via a broadband network, wherein

the central computer comprises:

a communication order determining unit that determines an order of communications between the central computer and the plurality of remote nodes, in order to avoid local traffic congestion in a communication route within the broadband network;

a communication interval determining unit that determines a communication interval between a remote node with which the central computer communicates this time and a remote node with which the central computer communicates next time, among the plurality of remote nodes that communicate with the central computer; and

a communication control unit that controls data communications between the central computer and the plurality of remote nodes, according to the communication order and the communication interval.

2. The system for dispersing the load of a network, according to claim 1, wherein

the communication interval is obtained as follows: a repetition period for repetitively executing communications with the whole plurality of remote nodes is divided by a total number of the remote nodes, and a quotient obtained is subtracted by a processing time per one node thereby to obtain the communication interval which includes a communication waiting time.

3. The system for dispersing the load of a network, according to claim 1, wherein

the plurality of remote nodes are divided into groups of a plurality of transmission lines, and

the frequency that the transmission lines divided into the groups are used for communications is increased in proportion to the number of remote nodes

that are accommodated in the divided groups of transmission lines.

4. The system for dispersing the load of a network, according to claim 2, wherein

5                   the plurality of remote nodes are divided  
into groups of a plurality of transmission lines, and  
                  the frequency that the transmission lines  
divided into the groups are used for communications is  
increased in proportion to the number of remote nodes  
10                   that are accommodated in the divided groups of  
transmission lines.

5. The system for dispersing the load of a network according to claim 1, wherein

                  the plurality of remote nodes are divided  
15                   into groups of a plurality of transmission lines, and  
                  the frequency that the transmission lines  
divided into the groups are used for communications is  
increased in proportion to the line speeds of the divided  
transmission lines.

20                   6. The system for dispersing the load of a network  
according to claim 2, wherein

                  the plurality of remote nodes are divided  
into groups of a plurality of transmission lines, and  
                  the frequency that the transmission lines  
25                   divided into the groups are used for communications is  
increased in proportion to the line speeds of the divided  
transmission lines.

7. A system for dispersing the load of a network in a monitoring unit that carries out polling to a  
30                   plurality of nodes to be monitored that are connected via  
a broadband network, wherein

                  the monitoring unit comprises:

                  a polling order determining unit that  
determines an order of polling the plurality of nodes to  
35                   be monitored;

                  a polling interval determining unit that  
determines a polling interval between the nodes to be

monitored; and

a control unit that controls the monitoring unit to carry out polling of the plurality of nodes to be monitored, according to the polling order and the polling interval.

8. A method of dispersing the load of a network in data communications between a central computer and a plurality of remote nodes that are connected to the central computer via a broadband network, the method comprising the steps of:

determining an order of communications between the central computer and the plurality of remote nodes, in order to avoid local traffic congestion in a communication route within the broadband network;

determining a communication interval between a remote node with which the central computer communicates this time and a remote node with which the central computer communicates next time, among the plurality of remote nodes that communicate with the central computer; and

controlling data communications between the central computer and the plurality of remote nodes, according to the communication order and the communication interval.

9. The method of dispersing the load of a network according to claim 8, wherein

the communication interval is obtained as follows: a repetition period for repetitively executing communications with the whole plurality of remote nodes is divided by a total number of the remote nodes, and a quotient obtained is subtracted by a processing time per one node thereby to obtain the communication interval which includes a communication waiting time.

10. The method of dispersing the load of a network, according to claim 8, wherein

the plurality of remote nodes are divided into groups of a plurality of transmission lines, and

the frequency that the transmission lines divided into the groups are used for communications is increased in proportion to the number of remote nodes that are accommodated in the divided groups of transmission lines.

11. The method of dispersing the load of a network, according to claim 9, wherein

the plurality of remote nodes are divided into groups of a plurality of transmission lines, and

the frequency that the transmission lines divided into the groups are used for communications is increased in proportion to the number of remote nodes that are accommodated in the divided groups of transmission lines.

12. The method of dispersing the load of a network, according to claim 8, wherein

the plurality of remote nodes are divided into groups of a plurality of transmission lines, and

the frequency that the transmission lines divided into the groups are used for communications is increased in proportion to the line speeds of the divided transmission lines.

13. The method of dispersing the load of a network, according to claim 9, wherein

the plurality of remote nodes are divided into groups of a plurality of transmission lines, and

the frequency that the transmission lines divided into the groups are used for communications is increased in proportion to the line speeds of the divided transmission lines.

14. A method of dispersing the load of a network in a monitoring unit that carries out polling to a plurality of nodes to be monitored that are connected via a broadband network, the method comprising the steps of:

determining an order of polling the plurality of nodes to be monitored;

determining a polling interval between the

nodes to be monitored; and

controlling the monitoring unit to carry out polling of the plurality of nodes to be monitored, according to the polling order and the polling interval.

5           15. A computer-readable recording medium recorded with a program that is used in a system for dispersing the load of a network in data communications between a central computer and a plurality of remote nodes that are connected to the central computer via a broadband  
10 network, wherein

the recording medium has been recorded with a program for making the central computer function as:

15           a communication order determining unit that determines an order of communications between the central computer and the plurality of remote nodes, in order to avoid local traffic congestion in a communication route within the broadband network;

20           a communication interval determining unit that determines a communication interval between a remote node with which the central computer communicates this time and a remote node with which the central computer communicates next time, among the plurality of remote nodes that communicate with the central computer; and

25           a communication control unit that controls data communications between the central computer and the plurality of remote nodes, according to the communication order and the communication interval.